

## NOTES.

THE Antarctic expedition equipped and sent out by Sir George Newnes in August 1898, under the direction of Mr. Borchgrevink, has safely returned. The following cablegram, sent from the Bluff, Campbelltown, which is one of the southernmost ports on the south coast of the South Island of New Zealand, has been received by Sir George Newnes from Mr. Borchgrevink:—"Object of Expedition carried out. Furthest south with sledge; record, 78° 50'. Present position of South Magnetic Pole located. Zoologist Nicolai Hanson dead. *Southern Cross* safely at Stewart Island. Leaving for Hobart. All well. Borchgrevink." The expedition has thus been a very successful one so far as geographical results are concerned, and we trust that its success may be taken as an earnest of what will be accomplished by the expeditions which depart next year. The highest latitude reached by Ross, in 1842, was 78° 10' S., this being the latitude at which his ships met with the great ice barrier. Mr. Borchgrevink has gone further than this, and he must have made a long journey by land to have reached lat. 78° 50' S. It will be interesting to know the position of the magnetic pole located during the expedition. From the observations made during Ross's expedition it has been inferred that a magnetic pole is situated in lat. 73° 5' S., and long. 147° 5' E. This places the real southern magnetic pole not far from the position assigned to it by the calculations of Gauss, viz. lat. 72° 35' S. and 152° 30' E. Since Ross's expedition, however, nearly sixty years have passed, and it will be interesting to compare Mr. Borchgrevink's determination of the present position of the magnetic pole with that deduced by Ross, and that predicted from theoretical considerations. While upon the subject of Antarctic exploration, it is noteworthy that Prof. J. W. Gregory, who has succeeded the late Sir Frederick M'Coy as professor of geology at Melbourne, has been appointed director of the scientific staff of the British Antarctic expedition to start next year. The Scottish expedition referred to last week (p. 518) is to be a private expedition organised by Mr. W. S. Bruce, and will not be officially connected with the Royal Scottish Geographical Society.

THE Paris correspondent of the *Times* announces the death, after a long illness, of M. Joseph Bertrand, the eminent mathematician.

WE regret to record that Dr. St. George Mivart, F.R.S., the distinguished biologist, died on April 1, at the age of seventy-three.

AT yesterday's meeting of the Institution of Naval Architects, the gold medal of the Institution was presented to Mr. J. Bruhn, and the premium to Prof. W. E. Dalby.

AT a recent meeting of the American Academy of Arts and Sciences, the Rumford medal was presented to Mr. C. F. Brush for his electrical work.

PROF. P. TACCHINI has resigned the directorship of the Royal Italian Bureau of Meteorology and Geodesy after forty years of service. Prof. Luigi Palazzo has been appointed temporary director.

SIR WILLIAM T. GAIRDNER, F.R.S., professor of medicine in the University of Glasgow, has resigned his chair because he feels unequal to the task of the enormous amount of reading necessitated by the professorship in order to keep in touch with the developments of medical science, and also because he wished to give way to "a younger pair of eyes, and perhaps a younger brain as well."

A PASTEUR institute was opened at Antananarivo, the capital of Madagascar, on Friday last.

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THE Actonian Prize of 100 guineas has been awarded by the Royal Institution to Sir William and Lady Huggins for their work, "An Atlas of Representative Stellar Spectra."

THE celebration of the jubilee of the Royal Meteorological Society began on Tuesday with an afternoon meeting, held in the Institution of Civil Engineers, with Dr. C. Theodore Williams, the president, in the chair. The president read an interesting paper on the history of the society, written by the late Mr. G. J. Symons. In the evening the Fellows and their friends attended a *conversazione* held in the galleries of the Royal Institute of Painters in Water Colours.

PROF. H. G. SEELEY, F.R.S., sends the following particulars from a communication received by him from Dr. Corstorphine. While Messrs. Rogers and Schwarz, of the Geological Survey of Cape Colony, were examining the Uitenhage or Sundays River beds, which are of Middle or Lower Jurassic age, Mr. Schwarz came upon the skeleton of a small Plesiosaurian about four feet long. The remains include the head showing the snout and palate, and the lower jaw. The teeth are in sockets, as usual, with fluted conical crowns and a cylindrical base. The largest teeth are in front. Thirty-eight vertebrae were collected, and one of the limb-girdles, regarded as that of the fore limb. The greater part of the flat, paddle-shaped hand is preserved. With this fossil were found *Astarte browni*, large Trigonias and *Olcostephanus atherstoni*.

WE regret to see in *Science* the announcement of the death, at her home in New York City, of Miss Catherine Wolfe Bruce, who made generous gifts for the advancement of astronomy to Harvard University, Columbia University and other institutions.

MANY naturalists and archæologists will regret to see the announcement of the death of Canon J. C. Atkinson, on March 31, within a few weeks of completing his 86th year. His well-known volume, "Forty Years in a Moorland Parish," published in 1891, was at once recognised as a work of permanent value, worthy of a place beside the immortal "Natural History of Selborne." Indeed, Canon Atkinson had many points in common with Gilbert White, being a keen naturalist and sportsman, as well as a highly-trained antiquary and philologist. Many generations of school-boys have derived their first interest in country matters from his still popular book on "British Birds and their Nests" and the contemporary volumes, "Walks and Talks" and "Play-hours and Half-Holidays," all of which are still in circulation.

A FEW particulars of the career of M. Samson Jordan, the distinguished French engineer and metallurgist, whose death we referred to last week, are given in the *Times*. He was born in Geneva in 1831. In 1855 he constructed the Saint-Louis blast furnaces, near Marseilles, of which works he was for some years engineer and afterwards a director. These blast furnaces were the first in France built for the purpose of smelting the pure, rich iron ores from Elba, Spain and Algeria, with coke as a fuel. To M. Jordan is due the introduction into France of iron and manganese ores from Spain and from the Mediterranean coast, as is also the manufacture of a special quality of cast iron. In 1862 M. Jordan removed to Paris, where he continued his professional work, and in 1865 he was appointed professor of metallurgy at the École Centrale des Arts et Manufactures, of which he was a former pupil. This appointment he held at the time of his death. M. Jordan in numerous ways promoted the advancement of the iron and steel industries in France. He was the author of several valuable metallurgical treatises. In 1874 he was elected President of the Société des Ingénieurs Civils de France, and an honorary member of the Society of

Engineers in England. He was also a member of the Iron and Steel Institute of Great Britain, of the Imperial Institute, and of the leading technical societies of France.

WE have to record with regret the death of Dr. Wilhelm Waagen, professor of palæontology at the University of Vienna. In 1865 he published at Munich an important essay on the classification of the Upper Jurassic strata, and subsequently gave much attention to the study of ammonites. On the death of Ferdinand Stoliczka in 1874, Dr. Waagen was appointed palæontologist to the Geological Survey of India. This post he was unfortunately compelled to resign at the end of three years, on account of his inability to resist the effects of a tropical climate. He, however, continued to labour at the Indian fossils, and after he had published his important memoir on the Jurassic Cephalopoda of Kach (1873-76), he devoted his attention to the remarkable series of fossils, ranging from the Lower Cambrian to the Trias, which had been obtained from the Salt Range. As remarked by Dr. W. T. Blanford, "his masterly summary of the geological results" thoroughly justified the award of the Lyell medal, which was made to Dr. Waagen by the Council of the Geological Society in 1898. He died at Vienna, on March 24, in the fifty-ninth year of his age.

THE announcement of the death of Prof. Pepper, formerly honorary director of the Polytechnic, Regent-street, and the inventor of the celebrated "Pepper's Ghost" effect and other illusions, came as a surprise to most men of science, for it was not generally known that until a few days ago he was still living. He assisted to popularise science in various ways, and was one of the founders of evening science classes in London. He lectured also for many years, making tours through America, Canada, and Australia, where he met with enthusiastic receptions. He was an honorary life member of the Institution of Civil Engineers, and a Fellow of the Chemical Society, and the author of the "Boy's Playbook of Science" and the "Boy's Playbook of Metals."

It is officially notified that all applications for space at the Glasgow International Exhibition, which is to be opened in May 1901, must be lodged not later than June 1 with the General Manager, Mr. H. A. Hedley. There are in all eight classes, embracing agriculture, mining, industrial design and manufactures, machinery and labour-saving appliances in motion, locomotion and transport, marine engineering and shipbuilding, lighting and heating, science, education, music, sports and sporting appliances. Separate sections will be devoted to women's exhibits, archaeology and fine art.

A REMARKABLE instance of the destruction of a species of bird by a hurricane is related by Mr. T. Digby Pigott in a recent issue of the *Times*. Before the West Indian hurricane of September 1898, one of the tamest and commonest birds on the island of St. Vincent was a small bronze-green humming-bird. It appears, however, that since the hurricane the bird has entirely disappeared. A friend of Mr. Pigott's, who was familiar with the bird, lately made a seven weeks' stay on the island, but did not see a single specimen; and upon inquiry he found that none of the birds had been seen since September 1898. The disappearance is the more remarkable as other humming-birds formerly less common than the one now missing are still to be seen in St. Vincent, though in diminished numbers. A possible explanation lies in the fact that the humming-bird which has apparently been extirpated was the smallest of the three species known upon the island, and therefore the most easily killed. Mr. Pigott has been unable to find the name of the bird that has disappeared; but his friend describes it as easily to be recognised by its habit of sitting with its crest erect.

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At the recent annual meeting of the Association of Chambers of Commerce, the following resolutions referring to the metric system were carried unanimously:—(1) That steps be taken by this Association to again urge Her Majesty's Government: (a) to introduce into and endeavour to carry through Parliament, as speedily as possible, a Bill providing that the use of the metric system of weights and measures shall be compulsory in this country within a period of not more than two years from the passing of the Bill; and (b) to adopt the system with as little delay as possible in all specifications for Government contracts. (2) That in the opinion of this Association it is necessary, in order to promote knowledge of the metric system of weights, measures and money among the people, that the Education Department should require Her Majesty's Inspectors to hold a real and effective examination of scholars in this system in the public elementary schools, and that a deputation of this Association do wait upon the vice-president of the Committee of Council on Education, and call his attention to the necessity of such examinations by Her Majesty's Inspectors.

THE Assistant Secretary to the Treasury Department of Washington, before whom a petition was recently brought by a number of persons in Buffalo as to the expediency of levying a tariff duty on electricity generated in Canada, and transmitted to the United States, has decided not to recommend such a proposal. The decision of the former Assistant Secretary Tichenor has thus been upheld, and as a consequence it is agreed that no tariff will be collected on electricity.

THE post of Technical Assistant to the Imperial Department of Agriculture for the West Indies has been offered to and accepted by Mr. Wm. G. Freeman, B.Sc. Educated at St. Olave's Grammar School, Mr. Freeman obtained a National Scholarship in Biology, and spent three years at the Royal College of Science, making botany his special subject. He obtained the Associateship of the College, with a first class in botany, and was awarded the Edward Forbes medal and prize for biology. In February 1896, he went out to assist the late Dr. Tremen at the Botanic Gardens, Ceylon, and afterwards, Mr. Willis, the present director. In October 1897, he was appointed Demonstrator in Botany, under Prof. Farmer, at the Royal College of Science.

THE second number of the *West Indian Bulletin*, just published, is devoted to a report of the proceedings at the Agricultural Conference held at Barbados in January last. It contains the address of the President, Dr. Morris, and the various papers and discussions on them, which were recently described in *NATURE* by Prof. D'Albuquerque (pp. 392, 398).

DR. W. BUSSE, of Berlin, intends starting early in April for German East Africa, to investigate the flora of the steppes, for the purpose of discovering any plants of technical or medicinal value. He proposes to remain nine months.

FROM a summary of the mineral production of Canada in 1899, by Mr. E. D. Ingall, just published by the Canadian Geological Survey, it appears that the increase which has been so marked a feature during the past few years was sustained. Compared with the corrected total for 1898, the preliminary figures for 1899 show an increase of over 22·2 per cent., the increases for 1898 and 1897 having been nearly 35 per cent. and nearly 27 per cent. respectively. Of the increase of 22·2 per cent., 15·52 per cent. is credited to the increased output of gold from the Yukon placers, 2·92 per cent. to the increases in the other metallic products, and 3·84 per cent. to the growth of the non-metallic mineral industries.

REFERENCES to the work done at the Astrophysical Observatory of the Smithsonian Institution are made by Prof. S. P. Langley in his report upon the operations of the Institution for

the year ending June 30, 1899. It has been shown that rock-salt prisms, whether obtained from mineral mined in Russia or Bavaria, have exactly the same refractive indices. It appears, therefore, that this interesting crystal, which from the time of Melloni to Prof. Langley himself has been chiefly used on account of its qualitative properties as regards the transmission of radiations, can now be used quantitatively as a standard of refraction to which all wave-lengths may be referred with the same order of precision as to the diffraction grating. Prof. Langley's measures of 1897-98, which determined the exact positions of 700 Fraunhofer lines in the infra-red spectrum of rock-salt, may thus be regarded as fixing constants of nature. As the wave-lengths of the lines were determined with an average probable error of three parts in 10,000, we are led to the surprising fact that, by working automatically in the dark, with the bolometer, it has been possible to analyse the infra-red solar spectrum with an accuracy comparable with that attained with much more pains through the eye itself.

ALL artificial lights, even the best, are extravagantly wasteful of energy, in that they lavish it in the infra-red, and not in the visible spectrum. Mr. C. G. Abbot, who has charge of the Astrophysical Observatory of the Smithsonian Institution, has examined the light emitted by the Welsbach mantle (which consists of impure thorium oxide) and other incandescent mantles, by means of the bolometer, with a view to comparing their efficiencies. Though the illuminating powers differ considerably, the distribution of energy is much less diversified than would be supposed, and shows clearly the wastefulness even of the Welsbach light as a source of illumination. The infra-red in each case includes by far the greater portion of the energy, and not the visible spectrum, as is the case with the sun, and still more, with phosphorescent substances. Excluding the infra-red radiation, the Welsbach mantle was found to be superior in light to the others experimented with, especially in the red, orange and yellow parts of the visible spectrum.

In a paper published in the *Geological Magazine* for March and April, Dr. C. Davison describes some of the less important British earthquakes felt during the years 1893-1899. The total number of shocks recorded in these seven years is forty-two, of which twenty-eight occurred in England and Wales, and fourteen in Scotland. In England, earthquakes were most numerous in the counties of Pembroke, Hereford and Cornwall; and in Scotland, in Annandale and Glen Garry, and near Comrie and Fort William. The earthquakes at the two last places are interesting from their connection with the two great faults which bound the Highland district; and the study of the shocks shows that the southern boundary fault near Comrie hades to the north-west, and the northern fault near Fort William probably to the south-east. A list of doubtful and spurious earthquakes is given, and among these are several which have been referred to by correspondents in *NATURE*. Several local earth-shakes in mining districts are described, and Dr. Davison suggests another cause of some of these shocks besides rock-falls in old workings, namely, small fault-slips in those places where the coal has been worked right up to the fault, and so withdrawn support from the rock above.

HERR R. PARKINSON has a unique knowledge of several districts of Melanesia, and he has recently contributed a very valuable paper on the ethnography of the North-western Solomon Islands to the *Abhandl. u. Berichte d. K. Zool. u. Anthropol. Mus., Dresden*, Bd. vii, 1899. He brings forward some fresh information on that evergreen topic of totemism. In Buka there are two clans which are called after their respective totems, the Fowl and the Frigate-bird, and members of the one clan must marry into the other. In North Bougainville the same

clans exist, but in South Bougainville and in the neighbouring islands there are a number of bird clans; here also no one may marry into his own clan, though he may marry into any other. In all cases the children belong to the mother's clan. The lads are initiated into the *Rukruk* society in a tabooed clearing in the bush; as in Australia and elsewhere, a bull-roarer is whirled, and the women believe that the unearthly noise produced by this mystical instrument is the conversation between the initiates and the male and female spirit. After this ceremony the lad may marry. As Parkinson deals with other customs, music, houses, clothing, ornaments, money, utensils, weapons and the like, it will be apparent that this memoir is of considerable importance, especially as the author has peculiar facilities for gaining trustworthy information.

IN the *Report* of the Rugby School Natural History Society for 1899 will be found an excellent plate of the skeleton of *Ichthyosaurus platyodon* disinterred at Stockton in 1898.

FROM the *Report* just to hand, the Ghizeh Zoological Gardens, under the direction of Mr. S. S. Flower, seem to be in a flourishing condition. By far the most interesting animals acquired during the year are the Proboscis Monkeys presented by the Netherlands Government.

As the result of an examination of the specimens brought back by the Harriman expedition, Dr. C. H. Merriam (*Proc. Washington Academy*, ii. pp. 13-30) describes no less than twenty-six mammals from Alaska and British North America as new. Although the majority of them are described as species, many naturalists will probably relegate at least a percentage to the rank of local races.

THE *Sitzungsberichte* of the Royal Scientific Society of Bohemia for 1899 is a bulky volume containing a large number of papers on various subjects, many of which, from being written in Czech, are unfortunately a sealed book to the majority of Englishmen. Among interesting or important biological papers, we may call attention to one, by Herr Ryba, on a new *Megaphylum* from the Coal-measures; to a second, by Herr Smyčka, on the occurrence of the European Pond-tortoise in Silesia; and to a third, by Dr. Rohon, on the morphology of the Devonian fishes in one of the Petersburg museums.

DR. O. Z. BIANCO has sent us a copy of an interesting communication made to the Royal Academy of Sciences at Turin on February 11. The paper is intended to be a contribution to the history of meteorology, and contains an account of some recent investigations of Italian men of science upon the physical constitution of the atmosphere, founded upon the famous balloon ascents of Mr. James Glaisher in the years 1862-6, which still hold their place as the best and most extensive series that we at present possess. The principal object of the paper is the construction of improved barometric formulæ for the determination of heights.

WE have received from Prof. G. Schwalbe an excerpt paper from the *Annalen der Physik* (iv. series, 1900), giving an account of his recent experiments upon Exner's theory of atmospheric electricity. The experiments, like those made some years ago (*Wied. Ann.* vol. lviii. p. 500, 1896), were carried on at the physical laboratory of the Agricultural High School at Berlin with the view of investigating the electrical behaviour of the vapours rising from electrified fluids. The author finds that such vapours carry no kind of electricity with them, and that consequently the experiments do not support Exner's theory, which explains the phenomena of atmospheric electricity by the transfer of the electric charge of the earth to the air by means of the evaporation going on from masses of water.



RECENT numbers of the *Communications* from the Physical Laboratory of the University of Leyden are occupied with work carried out in the cryogenic laboratory, which has been reopened after completing certain safety arrangements required by the Privy Council. Dr. H. Kamerlingh Onnes gives an account of certain methods and apparatus, including (1) a cryostat or boiling-glass and boiling case, for measurements with liquefied gases, especially oxygen; (2) the arrangement of a Brotherhood air compressor for the compression of gases to be kept free from admixture with air; (3) methods of pouring out little quantities of liquid nitrous oxide; and (4) boiling nitrous oxide in large quantities. In another issue, Dr. E. van Everdingen, jun., describes a continuation of his experiments on the Hall effect at the low temperatures now available, and has found no indication of a maximum value to this effect down to the boiling point of liquid oxygen. Dr. Fritz Hasenoechl investigates the dielectric constants of liquid nitrous oxide and nitrogen, a branch of investigation previously carried out by Dewar and Fleming. The results are for nitrous oxide 1.933, and for oxygen 1.465, as compared with Dewar's 1.491, while the Clausius Menotti formula is at any rate not negated by the experiments.

MESSRS. WATKINS AND DONCASTER have sent us their catalogue of natural history apparatus, books, birds, eggs, lepidoptera and other requisites of the field naturalist.

A SECOND edition of Part ii. of Prof. Chrystal's "Algebra" has just been published by Messrs. A. and C. Black. The principal changes occur in the sections on the Theory of Series, which have been rendered more useful to students proceeding to study the Theory of Functions. In the interests of the same class of readers, a sketch of the modern theory of irrational quantity has been added to the chapter. The first edition of Part ii. of Prof. Chrystal's work has already been noticed in NATURE (vol. xli. p. 338), and the merits of the work are so well known that it is unnecessary to do more now than announce the publication of the new edition.

THE London Geological Field Class, conducted by Prof. H. G. Seeley, F.R.S., offers exceptional opportunities of obtaining observational knowledge of the physical geography and geology of the London district. Visits are made to selected places on Saturday afternoons between the end of April and the beginning of July, and short addresses are given upon the characteristics of the rock structures and the development of the land forms seen during the excursions. The places to be visited this year have been selected with the view to illustrate the geological structure of the London basin by an examination of Cretaceous rocks at Godalming, Oxted, Gomshall and elsewhere, and of the Oolite of Bedford. The first excursion will be made on April 28.

SEVERAL parts of elaborate scientific memoirs in course of publication by Mr. W. Engelmann, of Leipzig, have been received from Messrs. Williams and Norgate. Included among these recent works are:—"Monsunia: Beiträge zur Kenntniss der Vegetation des süd- und ostasiatischen Monsungebietes" (Band i.), by O. Warburg; "Monographien afrikanischer Pflanzen-Familien und Gattungen: IV. Combretaceae excl. Combretum," by A. Engler and L. Diels; "Genera Siphonogamarum ad Systema Englerianum Conscripta" (Fasciculus i.), by Drs. C. G. de Dalla Torre and H. Harms; and "Conspectus florae graecae" (Fasciculus i.), by E. de Halacsy. In addition to these publications of the house of Engelmann, we have received from the firm of Gebrüder Borntraeger, Berlin, the first part of the first volume of "Die mikroskopische Analyse der Drogenpulver," an atlas for chemists and druggists, by Dr. Ludwig Koch. We propose to review these works when they have been completed.

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THE question as to the origin of the energy possessed by the Becquerel rays is one of considerable interest. The existence of substances capable of emitting radiations possessing energy, without any appreciable loss of weight or introduction of work from external sources, would appear to be impossible from the view of conservation of energy. The measurements of M. Henri Becquerel upon the deviation of the radium rays in an electric field, taken in conjunction with those of M. and Mme. Curie of the charges carried by these rays, lead to results which show a way out of this difficulty, on account of the extreme minuteness of the quantities of energy in question. The calculations of M. Becquerel show that the energy radiated per square centimetre is of the order of one ten-millionth of a watt per second. Hence a loss of weight of about a milligram in a thousand million years would suffice to account for the observed effects, assuming the energy of the radium to be derived from an actual loss of material.

THE detailed study of the hydrocarbon indene has hitherto been hindered by the difficulty of obtaining it in large quantities in a pure state. In the March number of the *Journal* of the Chemical Society, Messrs. Kipping and Hall describe two new syntheses of indene, in which the yields are practically theoretical. Cinnamic acid is the starting point, from which  $\alpha$ -hydrindone is prepared by methods previously described; the oxime from this is then reduced to  $\alpha$ -hydrindamine, from which indene can be obtained either by heating the hydrochloride at 250° C., or by preparing the iodide of trimethyl-hydrindamine and submitting this to dry distillation. The indene thus prepared was shown to be identical with that synthesised by Perkin and Révay, and also with indene from coal-tar.

IT is now very generally agreed that the true constitution of the sulphites is represented by the unsymmetrical formula  $R.SO_2.OR$ , as opposed to the symmetrical  $SO.(OR)_2$ . One interesting outcome of the former view is that there should be isomeric double sulphites, the one  $R.SO_2.OR'$ , and the other  $R'.SO_2.OR$ , and Schwicker and Barth have indicated the existence of such isomers in the case of sodium potassium sulphite. Dr. Fraps, however, in the March number of the *American Chemical Journal*, after carefully repeating these experiments, has been driven to the conclusion that no such isomerism exists in this case. This coincides with the views of Hantzsch, who holds that structural isomerism is unknown in inorganic bodies.

THE additions to the Zoological Society's Gardens during the past week include a Secretary Vulture (*Serpentarius reptili-vorus*) from South Africa, presented by Mr. James D. Logan, jun.; a Spanish Blue Magpie (*Cyanopoliis cooki*) from Spain, presented by Mr. E. G. B. Meade-Waldo; a Greater Black-backed Gull (*Larus marinus*), European, presented by Mr. H. Clinton Baker; four Marbled Newts (*Molge marmorata*) from Bordeaux, presented by Mr. G. A. Boulenger, F.R.S.

#### OUR ASTRONOMICAL COLUMN.

NEW VARIABLE IN ANDROMEDA.—Dr. T. D. Anderson, of Edinburgh, has communicated to the *Astronomische Nachrichten* (Bd. 152, No. 3632) his observations of the variability of a new variable star in the constellation of Andromeda. The co-ordinates of the star's position are:—

$$\left. \begin{array}{l} \text{R.A.} = \text{oh. } 8^{\text{h}} 5^{\text{m}} \\ \text{Decl.} = +46^{\circ} 12' \end{array} \right\} (1855.)$$

lying almost exactly on the boundary between Cassiopeia and Andromeda. It is not mentioned in the Bonn *Durchmusterung*, As measured from the comparison stars B.D. +46°38' (8.5), 40